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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,781	01/14/2004	Yun Zhang	105297-1033	3117

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03/12/2007

EXAMINER

SHIKHMAN, MAX

ART UNIT	PAPER NUMBER
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2609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/756,781	Applicant(s) ZHANG, YUN	
	Examiner Max Shikhman	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 6 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,7-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>June 30, 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: After "BRIEF DESCRIPTION OF THE DRAWINGS", just before [0010], applicant needs to write the next heading, "TECHNICAL DESCRIPTION OF THE INVENTION".

Appropriate correction is required.

Claim Objections

2. Claims 1, 4 and 6 are objected to because of the following informalities: Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p). Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4 are rejected under 35 U.S.C. 102(b) as being unpatentable by Hatlestad (US-PAT-NO: 5661817).

(1) Regarding **Claim 1**:

Hatlestad discloses a *method for generating a natural colour image comprising the steps of generating a greenness band from a multispectral image including blue, green, red and near infrared bands.*

(Abstract, "restrict the light received by the camera to a bandwidth approximately from wavelengths of 600-1400 nm."

Column 2, line 1. Column 3, lines 58-60. Column 4, lines 12-14.

Column 4, lines 22-30, "If the (G) signals from the green pixels are subtracted from the (R) signals from the red pixels, the result, therefore, is substantially a signal containing red information." Bandpass filter filters out green and blue light; only R and NIR light reaches the R, G, B pixels. R pixels respond to R+NIR light; G and B pixels respond to NIR. To get pure R, $R+NIR-NIR=R$.

The same method can be used to get a signal with mostly green information. Filter out blue and red light from reaching the camera. Then, $G=G_{pure}+NIR$. $R=NIR$. $G_{pure}=G-R=G-NIR$. G_{pure} can be used [line 23, column 4] in the formula $G/(R-G)$ or to remove NIR in G.)

(2) Regarding **Claim 4**:

Hatlestad discloses a *method for generating a pan-sharpened natural colour image comprising the steps of generating a greenness band from pan-sharpened image bands including blue, green, red and near infrared bands and adjusting the pan-sharpened green band using the greenness band.*

(Abstract, "restrict the light received by the camera to a bandwidth approximately from wavelengths of 600-1400 nm."

Column 2, line 1. Column 3, lines 58-60. Column 4, lines 12-14.

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Column 4, lines 22-30, "If the (G) signals from the green pixels are subtracted from the (R) signals from the red pixels, the result, therefore, is substantially a signal containing red information." Bandpass filter filters out green and blue light; only R and NIR light reaches the R, G, B pixels. R pixels respond to R+NIR light; G and B pixels respond to NIR. To get pure R, $R+NIR-NIR=R$.

The same method can be used to get a signal with mostly green information. Filter out blue and red light from reaching the camera. Then, $G=G_{\text{pure}}+NIR$. $R=NIR$. $G_{\text{pure}}=G-R=G-NIR$. G_{pure} can be used [line 23, column 4] in the formula $G/(R-G)$ or to remove NIR in G.)

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claim 6** is rejected under 35 U.S.C. 102(e) as being unpatentable by Burky (PGPUB-DOCUMENT-NUMBER: 20040075667). Burky discloses as follows.

A method for generating a pan-sharpened natural colour image

(46+48 in Figure 2)

comprising the steps of generating a greenness band from a panchromatic image

(44 in Figure 2)

and a pan-sharpened red band;

(46+48 in Figure 2. Zhang did not define "a pan-sharpened red band".)

and adjusting the pan-sharpened green band using the greenness band.

[[0030] "pixel color is added to that feature type's palette. For example, a pixel may have a certain shade of green and be classified as deciduous vegetation. In this case, the green color would be added to the deciduous vegetation palette. Accordingly, for the vegetation identification feature codes, very bright greens associated with non-natural colors may be generated. Based upon experience and the final area database image that would be generated using these non-natural colors, it has been determined that certain colors should be eliminated from the palettes to provide an all-natural color image as an end result.)

Allowable Subject Matter

7. Claims 2, 3, 5, 7-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach their respective mathematical formulas.

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Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cacciatore (US-PAT-NO: 6417891) discloses, "Color modification on a digital nonlinear editing system." Denny (US-PAT-NO: 5479255) discloses, "Multispectral signature extraction technique".

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Max Shikhman whose telephone number is (571) 270-1669. The examiner can normally be reached on Monday-Friday 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Max Shikhman

1/16/2007



SHUWANG LIU
SUPERVISORY PATENT EXAMINER